CLAIMS

1. A power magnetic core, having a start section (15) and a termination section (16), formed therein with lines of magnetic force (20) extending from said start section (15) toward said termination section (16), comprising:

a first portion (17), having a permeability μa, disposed on the shortest magnetic path of said lines of magnetic force (20) connecting said start section (15) and said termination section (16) with each other; and

a second portion (18), having a permeability μb greater than said μa, disposed apart from the shortest magnetic path of said lines of magnetic force (20).

2. The power magnetic core according to claim 1, wherein

said first portion (17) contains soft magnetic powder having a relatively small average particle diameter, and said second portion (18) contains soft magnetic powder having a relatively large average particle diameter.

3. The power magnetic core according to claim 1, wherein

said first portion (17) contains iron powder, and said second portion (18) contains at least either Permalloy powder or Sendust powder.

4. A stator core prepared by employing the power magnetic core according to claim 1, comprising:

an annularly extending yoke portion (11);

a first teeth portion (12m) protruding from said yoke portion (11) in the radial direction of said yoke portion (11) so that said start section (15) is disposed on the protruding forward end; and

a second teeth portion (12n), protruding from said yoke portion (11) in the radial direction of said yoke portion (11) so that said termination section (16) is disposed on

the protruding forward end, adjacent to said first teeth portion (12m) at an interval, wherein

a slot portion (14) is defined in a space enclosed with said first and second teeth portions (12m, 12n) and said yoke portion (11), said first portion (17) extends along said slot portion (14), and said second portion (18) extends on the opposite side of said slot portion (14) with respect to said first portion (17).

5. A power magnetic core, having a start section (15) and a termination section (16), formed therein with lines of magnetic force extending in a prescribed direction from said start section (15) toward said termination section (16), comprising:

a plurality of flat soft magnetic particles (51), each including a major axis (52) and a minor axis (53), bonded to each other, wherein

each of said plurality of soft magnetic particles (51) is so bonded that the extensional direction of said major axis (52) and the extensional direction of said lines of magnetic force substantially coincide with each other.

6. A stator core prepared by employing the power magnetic core according to claim 5, comprising:

an annularly extending yoke portion (11); and

a plurality of teeth portions (12), protruding from said yoke portion (11) in the radial direction of said yoke portion (11), provided at intervals from each other, wherein

each of said plurality of soft magnetic particles (51) forming said yoke portion (11) is so bonded that the extensional direction of said major axis (52) and the extensional circumferential direction of said yoke portion (11) substantially coincide with each other, and

each of said plurality of soft magnetic particles (51) forming said teeth portions (12) is so bonded that the extensional direction of said major axis (52) and the radial direction of said yoke portion (11) substantially coincide with each other.

7. The stator core according to claim 6, wherein

said teeth portions (12) include forward end portions (19) disposed on the protruding forward ends of said teeth portions (12) to face a separately provided rotor core (2), and

said forward end portions (19) are formed by a plurality of spherical soft magnetic particles (61) bonded to each other.

8. The stator core according to claim 6, wherein

a slot portion (14) is defined in a space enclosed with two adjacent said teeth portions (12) and said yoke portion (11), and

said yoke portion (11) and said plurality of teeth portions (12) include a first portion (17) extending along said slot portion (14) and having a permeability μa and a second portion (18) extending on the opposite side of said slot portion (14) with respect to said first portion (17) and having a permeability μb greater than said μa.

9. The stator core according to claim 8, wherein

the average length of said major axis (52) is relatively small in said plurality of flat soft magnetic particles (51p) forming said first portion (17), and the average length of said major axis (52) is relatively large in said plurality of flat soft magnetic particles (51q) forming said second portion (18).